

ABSTRACT OF THE DISCLOSURE

A system and methodology are disclosed for forming a passive layer on a conductive layer, such as can be done during fabrication of an organic memory cell, which generally mitigates drawbacks inherent in conventional inorganic memory devices. The passive layer includes a conductivity facilitating compound, such as copper sulfide (Cu_2S), which is generated from an upper portion of a conductive material. The conductive material can serve as a bottom electrode in the memory cell, and the upper portion of the conductive material can be transformed into the passive layer *via* treatment with a plasma generated from fluorine (F) based gases.

10